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State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

June 27, 2016

Robert R. Worthen
Worthen/ Williams LLC
2200 North 1200 West
Lehi, Utah 84093

Subject: Initial Review of Amended Notice of Intention to Commence Large Mining Operations, Worthen/Williams LLC, Roudabush Mine, M/045/0027, Tooele County, Utah

Dear Mr. Worthen:

The Division of Oil, Gas and Mining has reviewed the referenced amended Notice of Intention to Commence Large Mining Operations (Notice) which was received May 26, 2016. The attached comments will need to be addressed before tentative approval may be granted.

The comments are listed under the applicable Minerals Rule heading; please format your response in a similar fashion. Please address only those items requested in the attached technical review by sending replacement pages for the original Notice using redline and strikeout text. After the Notice is determined technically complete, the Division will ask that you submit two clean copies. Upon final approval, both will be stamped approved, and one copy will be returned for your records.

Please submit your response to this review by August 31, 2016.

The Division will suspend further review of the Notice until receiving your response to this letter. Please contact Leslie Heppler, at 801-538-5257 or me at 801-538-5261 if you have questions concerning the review. Thank you for your cooperation in completing this permitting action.

Sincerely,

Paul B. Baker
Minerals Program Manager

PBB: lah: eb

Attachment: Review

cc: Tooele County - bgehring@tooeleco.org

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**INITIAL REVIEW OF AMENDED NOTICE OF INTENTION
TO COMMENCE LARGE MINING OPERATIONS**

**Worthen / Williams LLC
Roudabush Mine**

**M/045/0027
June 27, 2016**

General Comments:

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
1	All	The Division will have additional comments based on the review responses, specifically after new maps have been received. (No specific response needed.)	lah	
2	All	The Notice does not need to be printed on premium paper; regular paper is all that is needed. Please do not bind the document with a spiral binder; use a looseleaf binder clip or a binder clip. This document is scanned electronically by the Division, so the Division has to remove a spiral binder.	lah	
3	Page after cover	Add north arrow and label page as "Mine site overview."	lah	
4	Table of Contents	Add Page numbers (such as TC-1, TC-2). Do not use N/A in Table of Contents. Under the section in the text, a simple explanation why a section is not applicable would be useful.	lah	

R647-4-101 - Filing Requirements and Review Procedures

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
5	Un-numbered page	Start page 1 for section 101.	lah	

R647-4-104 – Operator Information and Surface and Mineral Ownership

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
6	Page 1	Under item 2, include the name of the actual person. This will be the person who is addressed in the letters and who is listed on the web site for the Division of Corporations.	lah	
7	Page 1	Under 4. Specific bank information is not needed in the Notice because it is included in the bond information. The contact person for surety and permitting is the person at Worthen/Williams who deals directly with permitting at the Division.	lah	
8	Page 2	Under 10. Although question 10 is in the Division's forms, it is not required by rule.	lah	

R647-4-105 - Maps, Drawings & Photographs

General Map Comments

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
9	Page 3 Para 1	It is unclear where parentheses a, b, c, d or e is at below. Please remove the sentence.	lah	
10	All maps	Include a north arrow on the map.	lah	
11	All maps	Omission – On one map the operator needs to define the property boundary, the mine boundary and the bonded acres, as the amount of disturbance the operator wants to permit is not clear.	lah	

105.1 - Topographic base map, boundaries, pre-act disturbance

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
12	Figure 1	Include arrows to the nearest locations and Township, Range and Section.	lah	
13	Figure 2	Include parcel numbers on page 2 (6, 7 and 9) to match Figure 2.	lah	
14	Omission	No topographic map has been included; please add a topographic map at a scale that shows the details of the site.	lah	

105.2 - Surface facilities map

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
15	Figure 3	Figure 3 is not a surface facilities map but text for soil (and is needed under other sections of the Notice). Because the only facility at the mine site is a gate, simply write in the text that there are no facilities on the site except a gate (include the dimensions of the gate) and show the gate on one of the figures. (The aerial photo after the title page would work well for a Figure 3.)	lah	

105.3 - Drawings or Cross Sections (slopes, roads, pads, etc.)

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
16	Figure 4	Text notes a Figure 4, but there is no Figure 4 included. The reclamation treatments maps is one of the most important maps and does not need to be complicated.	lah	
17	Omission	No geologic map or cross section is included. Please include in the Notice.	lah	
18	Omission	If various reclamation treatments will be used on different areas of the operation (i.e. slopes, pads, etc.), then a reclamation treatments map is needed showing where the different treatments will be used.	lk	

105.4 - Photographs

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
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Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
19	Include	Please include a statement under 105.4 that airphotos and photos are included throughout the text. In addition refer to Figures 10 and 10.1 through 10.10 on pages 57 thru 67.	lah	

105.5 – Underground and Surface Mine Development Maps

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
20	Omission	Include a one-line statement that “there currently is no underground mining at the site and none planned for the future.”	lah	

R647-4-106 - Operation Plan

106.2 - Type of operations - mining method, onsite processing, deleterious or acid-forming materials

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
21	Page 3	Section 106.2 – change “for transport” to “for off-site transport.”	lah	
22	Page 3	For bonding purposes, OGM needs details about the equipment used. Provide more information on the jaw crusher. Specifically the equipment location is needed, i.e. on-site versus off-site.	lah	
23	Page 4 para 1	Change “Grantsville Quarry” to “Roudabush.”	lah	

106.3 - Estimated acreages disturbed, reclaimed, annually/sequentially

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
24	Page 4	Include a simple table for acreages.	lah	
25	Page 4	Under this heading it states that 5-7 acres will be disturbed over the life of the mine. Is this 5-7 additional acres? The disturbed area is already more than this. It is suggested that one of the maps include a boundary of where mining activity has taken place and where mining activity will be occur in the future, and then survey this area for an accurate acreage determination.	lk	

106.4 - Nature of materials mined or processed (including waste materials), and estimated annual tonnages

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
26	Page 4	Section 106.4 change “for transport” to “for off-site transport.”	lah	

106.5 - Existing soil types, location, amount

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
27	Page 4	Change “there was a variance issues” to “there was a variance issued in 19**.”	lah	

106.6 - Plan for protecting & re-depositing soils

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
28	Omission	Please include a plan for replacing soil materials for reclamation.	lk	

106.8 - Depth to groundwater, extent of overburden, geologic setting

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
29	Omission	Include a brief description regarding the geology; refer to the geologic maps.	lah	
30	Page 4	Change "groundwater is not likely to be encountered" to "groundwater is not likely to be encountered, as the mine is progressing laterally and not vertically."	lah	

106.9 - Location & size of ore and waste piles, tailings, ponds

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
31	Omission	Include a brief statement.	lah	

106.10 - Amounts of material extracted or moved (including ore, waste, topsoil, etc.)

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
32	Omission	Include a brief statement.	lah	

R647-4-108 - Hole Plugging Requirements

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
33	Add	Include, "If any exploration drilling is done in the future, the operation will follow the R647-4-108 rules."	lah	

R647-4-109 - Impact Assessment

109.4 – Projected impacts on slope stability, erosion control, air quality, public health and safety

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
34	Page 5	Include more text regarding slope Sstability, i.e. highwall during mining versus highwall after mining.	lah	
35	Page 5	Include more text regarding public safety, specifically gates and signs.	lah	

109.5 - Actions to mitigate any impacts

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
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Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
36	Omission	This section was left out. Please either refer to sections above or include a brief statement on each impact.	lah	

R647-4-110 - Reclamation Plan

110.1 - Current & post mining land use

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
37	Omission	This section was left out. This section is important for bonding purposes.	lah	

110.2 – Reclamation of roads, highwalls, slopes, impoundments, drainages, pits, piles, shafts, adits, etc

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
38	Omission	This section was left out. This section is important for bonding purposes.	lah	

110.3 - Facilities to be left for post mining use (buildings, utilities, roads, pads, ponds, pits, equipment, etc.)

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
39	Omission	This section was left out. This section is important for bonding purposes.	lah	

110.4 - Description or treatment/location/disposition of deleterious or acid forming materials, including map

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
40	Omission	This section was left out. This section is important for bonding purposes.	lah	

110.5 - Revegetation planting program

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
41	Omission	Assuming 10 or more acres will be disturbed by this operation, a detailed revegetation plan is needed, including topsoil replacement, seedbed preparation, seed mix (species and seeding rate), methods of seeding, timing (late fall is best time to seed). Seedbed preparation may require the need to add fertilizer or other soil amendments. It may be necessary to have additional analysis of the soil materials to be used for reclamation to determine the type(s) and rate(s) of fertilizer or soil amendments needed.	lk	

R647-4-112 - Variance

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Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
42		The Notice says, "Application for variance was applied for (see original file) (1980)." Please submit the variance approval and include a brief description of the variance.	pbb & lah	
43		Approved variances apply only to the existing disturbance. If they are intended to apply to future disturbances, please make such a request, including the purpose of the variance, the rules for which the variance is being requested, and alternative methods that will be used to meet the intent of the Mined Land Reclamation Act.	lk	

R647-4-113 – Surety

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
44		Please use the Divisions worksheets for the demolition, regrading and revegetation	lah	
45	Pages 06 & 68	The Division cannot evaluate the reclamation cost estimate without a complete reclamation plan.	whw	
46	Pages 06 & 68	Please note that indirect costs are a percentage of the direct costs and not a lump sum.	whw	